Apprenticeship Manitoba

Machinist RSOS (2018) Subtask-to-Unit Comparison

	RSOS Subtask	Manitoba Unit(s)
Task 1	- Performs safety-related tasks.	
1.01	Maintains safe work environment.	A1 Trade Safety Awareness
1.01		A2 Safety
		B4 Introduction to Welding
		B12 Introduction to Grinding Machines
		C2 Material Testing
		D4 Computer Numerical Control (CNC) III Operation
1.02	Uses personal protective equipment	A1 Trade Safety Awareness
	(PPE) and safety equipment.	A2 Safety
		B4 Introduction to Welding
		B12 Introduction to Grinding Machines
		C2 Material Testing
		D4 Computer Numerical Control (CNC) III Operation
	2 - Organizes work.	
2.01	Interprets documentation.	A6 Basic Drawings
		A11 Basic Layout
2.02	Plans sequence of operations.	A11 Basic Layout
Task 3	- Uses communication and mentoring	y techniques.
3.01	Uses communication techniques.	A3 Learning About Work
3.02	Uses mentoring techniques.	A3 Learning About Work
0.02		
Task	- Processes workplace material.	
4.01	Selects workpiece material.	A11 Basic Layout
	· · · · · · · · · · · · · · · · · · ·	
4.02	Uses hoisting, lifting and rigging	A5 Hoisting, Lifting and Rigging
4.00	equipment.	
4.03	Marks workpiece for identification.	A11 Basic Layout
4.04	Performs heat treatment.	B3 Heat Treatment
		C2 Materials Testing
4.05	Performs quality assurance of	B8 Precision Measurement II
	workpiece.	C2 Materials Testing
		D2 Journeyperson Trainer
		D3 Quality Inspection
4.06	Deburrs workpiece.	A8 Hand and Power Tools
4.07	Sketches parts.	A6 Basic Drawings
Task 5	- Maintains machines, tooling and ins	pection equipment.
5.01	Cleans machines.	A8 Hand and Power Tools
		B2 Mechanical Components
		C3 Precision Layout
5.02	Lubricates machines.	A8 Hand and Power Tools
5.02		A8 Hand and Power Tools
5.05	Sharpens tooling.	
E 04	Applice outting fluid and esclart	C6 Abrasive Finishing
5.04	Applies cutting fluid and coolant.	A7 Fluids and Coolants
		B2 Mechanical Components
		C5 Gears and Gear Cutting
5.05	Troubleshoots equipment.	A9 Hand and Power Tools
		B7 Cutting Machine Tools
		C2 Material Testing
	Maintains machine alignment.	A8 Hand and Power Tools
5.06	Maintains machine ailgnment.	Ao hand and I ower 10013
5.06		B2 Mechanical Components

	RSOS Subtask	Manitoba Unit(s)
Task 6	6 - Performs hand processes.	
6.01	Performs layout.	A11 Basic Layout
6.02	Saws workpiece.	A8 Hand and Power Tools
6.03	Files workpiece.	A8 Hand and Power Tools
6.04	Performs hole making operations.	A9 Drill and Drill Presses
6.05	Performs threading operations.	A4 Hand Threading
6.06	Installs thread inserts.	A4 Hand Threading
6.07	Broaches workpiece.	A8 Hand and Power Tools
6.08	Performs pressing operations.	A8 Hand and Power Tools
6.09	Bends workpiece.	A8 Hand and Power Tools
6.10	Finishes workpiece.	A8 Hand and Power Tools
	7 - Refurbishes components.	1
7.01	Disassembles components.	A8 Hand and Power Tools
		B2 Mechanical Components
7.02	Analyzes components.	A9 Hand and Power Tools
		B2 Mechanical Components
7.03	Assembles components.	B2 Mechanical Components
Tall		
	8 - Sets up power saws.	Ad Trada Osfatu Augustanaa
8.01	Selects power saw types.	A1 Trade Safety Awareness
		A2 Safety A8 Hand and Power Tools
		B5 Power Saws
		B6 Contour Bandsaws
	Selects saw blades.	A1 Trade Safety Awareness
	Selects saw blades.	A2 Safety
8.02		A8 Hand and Power Tools
0.02		B5 Power Saws
		B6 Countour Bandsaws
	Installs saw blades.	A1 Trade Safety Awareness
	motano ouv biddeo.	A2 Safety
8.03		A8 Hand and Power Tools
0.00		B5 Power Saws
		B6 Countour Bandsaws
	Selects power saw speeds and feeds.	A1 Trade Safety Awareness
		A2 Safety
8.04		A8 Hand and Power Tools
		B5 Power Saws
		B6 Countour Bandsaws
	Makes power saw adjustments.	A1 Trade Safety Awareness
		A2 Safety
8.05		A8 Hand and Power Tools
		B5 Power Saws
		B6 Countour Bandsaws
	Sets up workpiece on power saw.	A1 Trade Safety Awareness
		A2 Safety
8.06		A8 Hand and Power Tools
		B5 Power Saws
		B6 Contour Bandsaws
Tack	- Operates power saws	
9.01	9 - Operates power saws.	A1 Trade Safety Awareness
9.01		A1 Trade Safety Awareness A2 Safety
	Saws straight and angle cuts.	A2 Salety A8 Hand and Power Tools
	Saws straight and angle cuts.	B5 Power Saws
		B6 Contour Bandsaws
9.02		A1 Trade Safety Awareness
0.02	Cuts irregular shapes.	A2 Safety
		ine outory

	RSOS Subtask	Manitoba Unit(s)
		A8 Hand and Power Tools
		B5 Power Saws
		B6 Contour Bandsaws
T - 1 4		
	0 - Sets up drill presses.	AO Deille and Deill Dessage
10.01	Selects drill press types.	A9 Drills and Drill Presses
10.02	Plans drill press sequence.	A9 Drills and Drill Presses
10.03	Selects drill press speeds and feeds.	A9 Drills and Drill Presses A9 Drills and Drill Presses
10.04	Sets up jigs, fixtures and work holding devices for drill presses.	
10.05	Sets up tooling for drill presses.	A9 Drills and Drill Presses
Task 1	1 - Operates drill presses.	
11.01		A9 Drills and Drill Presses
11.02	Cuts countersinks, counterbores,	A9 Drills and Drill Presses
	chamfers and spot faces using a drill press.	
11.03	Performs tapping using a drill press.	A9 Drills and Drill Presses
11.04	Finishes holes using a drill press.	A9 Drills and Drill Presses
Tack 4	2 - Sets up conventional lathes.	
12.01		A12 Introduction to Conventional Lathes
12.01	Sets conventional lathe types.	A13 Basic Conventional Lathe Operation
12.02		A12 Introduction to Conventional Lathes
	Plans sequence of operations for	A13 Basic Conventional Lathe Operation
	conventional lathes.	B9 Advanced Conventional Lathe Operation
12.03	Osta un usarla haldinar devices for	A12 Introduction to Conventional Lathes
	Sets up work holding devices for	A13 Basic Conventional Lathe Operation
	conventional lathes.	B9 Advanced Conventional Lathe Operation
12.04		A12 Introduction to Conventional Lathes
	Sets up tooling for conventional lathes.	A13 Basic Conventional Lathe Operation
		B9 Advanced Conventional Lathe Operation
12.05		A12 Introduction to Conventional Lathes
	Set up conventional lathe accessories.	A13 Basic Conventional Lathe Operation
		B9 Advanced Conventional Lathe Operation
12.06	Sets up workpiece on conventional	A12 Introduction to Conventional Lathes
	lathe.	A13 Basic Conventional Lathe Operation
		B9 Advanced Conventional Lathe Operation
12.07	Selects conventional lathe speeds and	A12 Introduction to Conventional Lathes
	feeds.	A13 Basic Conventional Lathe Operation
Task 1	3 - Operates conventional lathes.	
13.01	Faces surface using a conventional	A12 Introduction to Conventional Lathes
	lathe.	A13 Basic Conventional Lathe Operation
13.02	Turns external surfaces using a	A12 Introduction to Conventional Lathes
	conventional lathe.	A13 Basic Conventional Lathe Operation
13.03	Drills using a conventional lathe.	A12 Introduction to Conventional Lathes
		A13 Basic Conventional Lathe Operation
10.5		B9 Advanced Conventional Lathe Operation
13.04	Bores holes using a conventional lathe.	A12 Introduction to Conventional Lathes
13.04	Bores holes using a conventional lathe.	A12 Introduction to Conventional Lathes A13 Basic Conventional Lathe Operation
		A12 Introduction to Conventional Lathes A13 Basic Conventional Lathe Operation B9 Advanced Conventional Lathe Operation
13.04 13.05	Reams holes using a conventional	A12 Introduction to Conventional Lathes A13 Basic Conventional Lathe Operation B9 Advanced Conventional Lathe Operation A12 Introduction to Conventional Lathes
13.05	Reams holes using a conventional lathe.	A12 Introduction to Conventional Lathes A13 Basic Conventional Lathe Operation B9 Advanced Conventional Lathe Operation A12 Introduction to Conventional Lathes A13 Basic Conventional Lathe Operation
	Reams holes using a conventional	A12 Introduction to Conventional LathesA13 Basic Conventional Lathe OperationB9 Advanced Conventional Lathe OperationA12 Introduction to Conventional LathesA13 Basic Conventional Lathe OperationA12 Introduction to Conventional LathesA13 Introduction to Conventional Lathe OperationA12 Introduction to Conventional Lathe Operation
13.05	Reams holes using a conventional lathe.	 A12 Introduction to Conventional Lathes A13 Basic Conventional Lathe Operation B9 Advanced Conventional Lathe Operation A12 Introduction to Conventional Lathes A13 Basic Conventional Lathe Operation A12 Introduction to Conventional Lathes A13 Basic Conventional Lathe Operation A13 Basic Conventional Lathe Operation
13.05	Reams holes using a conventional lathe.	 A12 Introduction to Conventional Lathes A13 Basic Conventional Lathe Operation B9 Advanced Conventional Lathe Operation A12 Introduction to Conventional Lathes A13 Basic Conventional Lathe Operation A12 Introduction to Conventional Lathes A13 Basic Conventional Lathe Operation B9 Advanced Conventional Lathe Operation B9 Advanced Conventional Lathe Operation
13.05	Reams holes using a conventional lathe.	 A12 Introduction to Conventional Lathes A13 Basic Conventional Lathe Operation B9 Advanced Conventional Lathe Operation A12 Introduction to Conventional Lathes A13 Basic Conventional Lathe Operation A12 Introduction to Conventional Lathes A13 Basic Conventional Lathe Operation

	RSOS Subtask	Manitoba Unit(s)
		B9 Advanced Conventional Lathe Operation
		B10 Taper Turning
13.08	Cuts grooves using a conventional	A12 Introduction to Conventional Lathes
	lathe.	A13 Basic Conventional Lathe Operation
		B9 Advanced Conventional Lathe Operation
13.09	Cuts threads using a conventional lathe.	A12 Introduction to Conventional Lathes
	threads	A13 Basic Conventional Lathe Operation
		B9 Advanced Conventional Lathe Operation
		B10 Taper Turning
13.10	Parts off workpiece using a	A12 Introduction to Conventional Lathes
	conventional lathe.	A13 Basic Conventional Lathe Operation
		B9 Advanced Conventional Lathe Operation
Fack 1	4 - Sets up conventional milling machin	
4.01	Sets up conventional milling machines.	
4.01	Sets up conventional milling machines.	A15 Introduction to Milling Machines A15 Introduction to Milling Machines
14.02	Plans milling sequence.	B11 Conventional Milling Machine Operation
	Flans mining sequence.	C4 Horizontal/Universal Milling Machine
4.03		A15 Introduction to Milling Machines
14.03	Sets up work holding devices for	B11 Conventional Milling Machine Operation
	conventional milling machines.	C4 Horizontal/Universal Milling Machine
14.04		A15 Introduction to Milling Machines
· - .0 4	Sets up tooling for conventional milling	B11 Conventional Milling Machine Operation
	machines.	C4 Horizontal/Universal Milling Machine
14.05		A15 Introduction to Milling Machines
14.00		B11 Conventional Milling Machine Operation
	Sets up milling accessories.	C4 Horizontal/Universal Milling Machine
		D4 Computer Numerical Control (CNC) II Operation
14.06		A15 Introduction to Milling Machines
1 1.00	Sets up workpiece on a conventional	B11 Conventional Milling Machine Operation
	milling machine.	C4 Horizontal/Universal Milling Machine
14.07		A15 Introduction to Milling Machines
	Selects conventional milling machine	B11 Conventional Milling Machine Operation
	speeds and feeds.	C4 Horizontal/Universal Milling Machine
	5 - Operates conventional milling machi	
15.01	Mills surfaces using a conventional	B11 Conventional Milling Machine Operation
	milling machine.	C4 Horizontal/Universal Milling Machine
15.02	Mills profiles and pockets using a	B11 Conventional Milling Machine Operation
	conventional milling machine.	C4 Horizontal/Universal Milling Machine
15.03	Mills slots, groves and keyways using a	B11 Conventional Milling Machine Operation
	conventional milling machine.	C4 Horizontal/Universal Milling Machine
15.04	Cuts gears and splines using a	B11 Conventional Milling Machine Operation
	conventional milling machine.	C4 Horizontal/Universal Milling Machine
		D4 Computer Numerical Control (CNC) III Operation
15.05	Drills holes using a conventional milling	B11 Conventional Milling Machine Operation
15.05	machine.	C4 Horizontal/Universal Milling Machine
15.06	Reams holes using a conventional	B11 Conventional Milling Machine Operation
	milling machine.	C4 Horizontal/Universal Milling Machine
15.07	Cuts countersinks, counterbores,	B11 Conventional Milling Machine Operation
	chamfers and spot faces using a	C4 Horizontal/Universal Milling Machine
	conventional milling machine.	
15.08	Performs tapping using a conventional	B11 Conventional Milling Machine Operation
	milling machine.	C4 Horizontal/Universal Milling Machine
15.09	Bores holes using a conventional milling	A15 Introduction to Milling Machines
	machine.	B11 Conventional Milling Machine Operation
		C4 Horizontal/Universal Milling Machine
ask 1	6 - Sets up precision grinding machines	
6.01	Selects precision grinding machine	B12 Introduction to Grinding Machines

	RSOS Subtask	Manitoba Unit(s)
	types.	C6 Abrasive Finishing
		C7 Surface Grinders
		C8 Cylindrical Grinders
16.02	Plans grinding sequence.	B12 Introduction to Grinding Machines
		C6 Abrasive Finishing
		C7 Surface Grinders
		C8 Cylindrical Grinders
16.03	Sets up work holding devices for	B12 Introduction to Grinding Machines
	precision grinding machines.	C6 Abrasive Finishing
		C7 Surface Grinders
		C8 Cylindrical Grinders
16.04	Mounts grinding wheel.	B12 Introduction to Grinding Machines
		C6 Abrasive Finishing
		C7 Surface Grinders
		C8 Cylindrical Grinders
16.05	Sets up grinding accessories.	B12 Introduction to Grinding Machines
		C6 Abrasive Finishing
		C7 Surface Grinders
		C8 Cylindrical Grinders
16.06	Sets up workpiece on precision grinding	B12 Introduction to Grinding Machines
	machines.	C6 Abrasive Finishing
		C7 Surface Grinders
		C8 Cylindrical Grinders
16.07	Selects precision grinding machine	B12 Introduction to Grinding Machines
	speeds and feeds.	C6 Abrasive Finishing
		C7 Surface Grinders
		C8 Cylindrical Grinders
Taalad	7. On enerte e une sisien, prin din a meschin	
17.01	7 - Operates precision grinding machine Grinds flat surfaces using a precision	A8 Hand and Power Tools
17.01	grinder.	B12 Introduction to Grinding Machines
	grinder.	C6 Abrasive Finishing
17.02		C7 Surface Grinders
	Grinds profiles	C8 Cylindrical Grinders
17.02	Grinds profiles.	C8 Cylindrical Grinders B12 Introduction to Grinding Machines
17.02	Grinds profiles.	C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing
17.02	Grinds profiles.	C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders
		C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders
17.02	Grinds internal and external cylindrical	C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders B12 Introduction to Grinding Machines
		C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing
	Grinds internal and external cylindrical	C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders
17.03	Grinds internal and external cylindrical and tapered surfaces.	C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders
	Grinds internal and external cylindrical	C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders B12 Introduction to Grinding Machines
17.03	Grinds internal and external cylindrical and tapered surfaces.	C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing
17.03	Grinds internal and external cylindrical and tapered surfaces.	C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders
17.03	Grinds internal and external cylindrical and tapered surfaces. Grinds tools and cutters	C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders C8 Cylindrical Grinders
17.03	Grinds internal and external cylindrical and tapered surfaces.	C8 Cylindrical GrindersB12 Introduction to Grinding MachinesC6 Abrasive FinishingC7 Surface GrindersC8 Cylindrical GrindersB12 Introduction to Grinding MachinesC6 Abrasive FinishingC7 Surface GrindersC8 Cylindrical GrindersB12 Introduction to Grinding MachinesC6 Abrasive FinishingC7 Surface GrindersB12 Introduction to Grinding MachinesC6 Abrasive FinishingC7 Surface GrindersB12 Introduction to Grinding MachinesC6 Abrasive FinishingC7 Surface GrindersB12 Introduction to Grinding MachinesB12 Introduction to GrindersB12 Introduction to GrindersB12 Introduction to Grinding Machines
17.03	Grinds internal and external cylindrical and tapered surfaces. Grinds tools and cutters	C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders B12 Introduction to Grinding Machines C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing
17.03	Grinds internal and external cylindrical and tapered surfaces. Grinds tools and cutters	C8 Cylindrical GrindersB12 Introduction to Grinding MachinesC6 Abrasive FinishingC7 Surface GrindersC8 Cylindrical GrindersB12 Introduction to Grinding MachinesC6 Abrasive FinishingC7 Surface GrindersC8 Cylindrical GrindersB12 Introduction to Grinding MachinesC6 Abrasive FinishingC7 Surface GrindersB12 Introduction to Grinding MachinesC6 Abrasive FinishingC7 Surface GrindersB12 Introduction to Grinding MachinesC8 Cylindrical GrindersB12 Introduction to Grinding MachinesC6 Abrasive FinishingC7 Surface GrindersB12 Introduction to Grinding MachinesC6 Abrasive FinishingC7 Surface GrindersB12 Introduction to Grinding MachinesC6 Abrasive FinishingC7 Surface Grinders
17.03	Grinds internal and external cylindrical and tapered surfaces. Grinds tools and cutters	C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders B12 Introduction to Grinding Machines C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing
17.03 17.04 17.05	Grinds internal and external cylindrical and tapered surfaces. Grinds tools and cutters Finishes holes using a honing machine. 8 - Performs CNC programming.	C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders
17.03 17.04 17.05	Grinds internal and external cylindrical and tapered surfaces. Grinds tools and cutters Finishes holes using a honing machine.	C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders B13 Computer Numerical Control (CNC) I Machine - Tools
17.03 17.04 17.05 17.05 18.01	Grinds internal and external cylindrical and tapered surfaces. Grinds tools and cutters Finishes holes using a honing machine. 8 - Performs CNC programming. Reviews process documentation.	C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders B13 Computer Numerical Control (CNC) I Machine - Tools C9 Computer Numerical Control (CNC) II - Program Code
17.03 17.04 17.05 Task 1	Grinds internal and external cylindrical and tapered surfaces. Grinds tools and cutters Finishes holes using a honing machine. 8 - Performs CNC programming.	C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders B13 Computer Numerical Control (CNC) I Machine - Tools C9 Computer Numerical Control (CNC) II - Program Code B13 Computer Numerical Control (CNC) I Machine - Tools B13 Computer Numerical Control (CNC) I Machine - Tools
17.03 17.04 17.05 17.05 18.01	Grinds internal and external cylindrical and tapered surfaces. Grinds tools and cutters Finishes holes using a honing machine. 8 - Performs CNC programming. Reviews process documentation.	C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders B13 Computer Numerical Control (CNC) I Machine - Tools C9 Computer Numerical Control (CNC) I I - Program Code
17.03 17.04 17.05 17.05 18.01	Grinds internal and external cylindrical and tapered surfaces. Grinds tools and cutters Finishes holes using a honing machine. 8 - Performs CNC programming. Reviews process documentation.	C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders B13 Computer Numerical Control (CNC) I Machine - Tools C9 Computer Numerical Control (CNC) I Machine - Tools
17.03 17.04 17.05 17.05 18.01 18.02 18.03	Grinds internal and external cylindrical and tapered surfaces. Grinds tools and cutters Finishes holes using a honing machine. 8 - Performs CNC programming. Reviews process documentation. Creates manual input program. Transfers program to and from control memory.	C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders B13 Computer Numerical Control (CNC) I Machine - Tools C9 Computer Numerical Control (CNC) I I - Program Code B13 Computer Numerical Control (CNC) I I - Program Code B13 Computer Numerical Control (CNC) I Machine - Tools C9 Computer Numerical Control (CNC) I I - Program Code
17.03 17.04 17.05 17.05 18.01 18.02	Grinds internal and external cylindrical and tapered surfaces. Grinds tools and cutters Finishes holes using a honing machine. 8 - Performs CNC programming. Reviews process documentation. Creates manual input program. Transfers program to and from control	C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders C8 Cylindrical Grinders B12 Introduction to Grinding Machines C6 Abrasive Finishing C7 Surface Grinders B13 Computer Numerical Control (CNC) I Machine - Tools C9 Computer Numerical Control (CNC) I Machine - Tools

RSOS Subtask		Manitoba Unit(s)
18.05	Creates 2D and 3D models.	B13 Computer Numerical Control (CNC) I Machine - Tools
		C9 Computer Numerical Control (CNC) II - Program Code
18.06	Programs using Computer-Aided	B13 Computer Numerical Control (CNC) I Machine - Tools
	Manufacturing (CAM)	C9 Computer Numerical Control (CNC) II - Program Code
Task 1	9 - Sets up CNC machines.	
19.01	Selects tooling and tool holders for CNC	B13 Computer Numerical Control (CNC) I Machine - Tools
	machines.	C9 Computer Numerical Control (CNC) II - Program Code
19.02	Sets up tooling and tool holders on	B13 Computer Numerical Control (CNC) I Machine - Tools
	CNC machines.	C9 Computer Numerical Control (CNC) II - Program Code
19.03	Sets up workpieces on CNC machines.	B13 Computer Numerical Control (CNC) I Machine - Tools
		C9 Computer Numerical Control (CNC) II - Program Code
		D4 Computer Numerical Control (CNC) III Operation
19.04	Establishes work datum.	B13 Computer Numerical Control (CNC) I Machine - Tools
		C9 Computer Numerical Control (CNC) II - Program Code
		D4 Computer Numerical Control (CNC) III Operation
19.05	Verifies program.	B13 Computer Numerical Control (CNC) I - Machine - Tools
		C9 Computer Numerical Control (CNCI) II - Program Code
		D4 Computer Numerical Control (CNC) III - Operation
	20 - Operates CNC machines.	
20.01	Adjusts offsets.	B13 Computer Numerical Control (CNC) I -Machine – Tools
		C9 Computer Numerical Control (CNC) II – Program Code
		D4 Computer Numerical Control (CNC) III - Operation
20.02	Monitors machining processes.	B13 Computer Numerical Control (CNC) I - Machine – Tools
		C9 Computer Numerical Control (CNC) II – Program Code
		D4 Computer Numerical Control (CNC) III - Operation
20.03	Interrupts program cycle.	B13 Computer Numerical Control (CNC) I - Machine – Tools
		C9 Computer Numerical Control (CNC) II – Program Code
		D4 Computer Numerical Control (CNC) III - Operation
20.04	Restarts program cycle.	B13 Computer Numerical Control (CNC) I -Machine – Tools
		C9 Computer Numerical Control (CNC) II – Program Code
		D4 Computer Numerical Control (CNC) III - Operation



Rev. 10/2019